

CLAIMS

1. A process for the preparation of a hydrogenated polymer comprising the steps of:hydrogenation of at least one carbon-carbon double bond of an unsaturated polymer in latex in the presence of hydrazine, an oxidizing compound and a catalyst, followed by separation of the hydrogenated polymer from the latex characterised in that after the separation of the hydrogenated polymer from the latex a mixing step is carried out in which the hydrogenated polymer is first mixed with an amine group containing compound and next the hydrogenated polymer is mixed with a compound that is capable of reacting with an amine.
2. A process according to Claim 1 characterised in that the compound that is capable of reacting with an amine group is a compound according to formula (I):



- wherein
R is a unit derived from an (cyclo) aliphatic ($C_1 - C_{20}$) group or a ($C_6 - C_{20}$) aryl group ,
X is a unit derived from an epoxide-, an anhydride-, an isocyanate-, an acid chloride- and/or a carboxylic acid and
 $n=1-5$
3. A process according to Claim 2 characterised in that the compound according to formula (I) is phthalic acid anhydride, maleic anhydride, acetic anhydride, stearic anhydride, tetra hydro phthalic acid anhydride, cyclohexane dicarboxylic acid anhydride, nadic anhydride and/or succinic anhydride.
4. A process according to any one of the Claims 1-3 characterised in that the unsaturated polymer is polybutadiene, polyisoprene, styrene-butadiene copolymer, acrylonitrile-butadiene copolymer, natural rubber, butadiene-isoprene rubber and/or a terpolymer of butadiene, acrylonitrile and (meth)acrylate ester or acid.
5. A process according to Claim 4 characterised in that the polymer is acrylonitrile-butadiene copolymer.
6. A process according to any one of the Claims 1-5 characterised in that the amine group containing compound is an amine according to formula (II):



wherein

R is derived from an aliphatic group comprising at least one C atom or derived from an aromatic group comprising at least 6 C-atoms,

X is a hydrogen atom, NH₂-, OH- or SH-group and

Y is a NH₂-, OH- or SH-group.

- 5 7. A process according to Claim 6 characterised in that the amine is an amine according to formula (III)



8. A process according to any one of Claims 1-7 characterised in that the catalyst is a compound which contains boron.
- 10 9. A hydrogenated polymer obtained by the process according to any one of the Claims 1-8.
10. Use of the a polymer obtained with the process according to any one of Claims 1-8 or use of the hydrogenated polymer according to Claim 9 in a thermoplastic composition or in a thermosetting composition.
- 15 11. An article based on a polymer obtained with the process according to any one of Claims 1-8 or based on the polymer according to Claim 9. .
12. An article according to Claim 11 characterised in that the article is applied in the automotive industry, in the oil industry, in the electrical industry, in the engineering industry, in the ship building industry, in household machines, in
- 20 the paper manufacturing industry or in the cable industry.
13. An article according to Claim 12 characterised in that the article is a belt, a hose, a gasket, a boot, a bellow, a vibration damper or a seal.